

ABSTRACT OF THE DISCLOSURE

A communication system including a transmitter, a receiver, and a serial link, in which encoded data (e.g., encoded video data and encoded auxiliary data) are transmitted from the transmitter to the receiver. The serial link can but need not be a TMDS or TMDS-like link. In typical embodiments, alternating bursts of encoded video data and encoded auxiliary data are transmitted over each of one or more channels of the link. Other aspects of the invention are transmitters for use in encoding data for transmission over a serial link, and methods for sending encoded data over a serial link. In accordance with the invention, the data to be transmitted are encoded using a subset (sometimes referred to as a selected set of code words) of a full set of code words. The selected set of code words is selected such that each stream of encoded data (comprising only using such code words) transmitted over a serial link has a bit pattern that is less susceptible to inter-symbol interference ("ISI") during transmission than is the bit pattern determined by a conventionally encoded version of the same data (comprising not only the selected set of code words but also other members of the full set). In general, the best choice for the selected set of code words selected from a full set of binary code words depends on the particular coding implemented by the full set. Typically, the selected set of code words includes words whose serial patterns (during transmission) have fewer contiguous zeros and ones (and thus are less susceptible to ISI during transmission) than do those code words in the full set that are not selected. In preferred embodiments in which the bits of the selected set of code words are transmitted over a serial link as sequences of rising and falling voltage transitions, the bit pattern of each transmitted stream of the selected set of code words implements DC balancing to limit the voltage drift over time.